

IN THE CLAIMS:

Please amend the claims as follows:

1. (currently amended) A process for the laser welding of nonferrous metals, consisting essentially of:

providing one or more laser diodes as a laser beam source;

guiding at least one focused laser beam to the workpiece surface to be machined; and

flowing a process gas against the workpiece surface,

wherein the process gas comprises

- 100% by volume carbon dioxide, or
- a binary gas mixture of carbon dioxide and argon, or
- a binary gas mixture of carbon dioxide and nitrogen, or
- ~~- a binary gas mixture of carbon dioxide and oxygen, or~~
- a ternary gas mixture of carbon dioxide, argon and nitrogen, or
- ~~- a ternary gas mixture of carbon dioxide, argon and oxygen.~~

2. (previously presented) A process according to Claim 1, wherein the process gas contains between about 15% and about 90% by volume of carbon dioxide.

3. (previously presented) A process according to claim 1, wherein the process gas contains between about 45% and about 85% by volume of carbon dioxide.

4. (previously presented) A process according to claim 1, wherein the process gas contains between about 55% and about 80% by volume of carbon dioxide.

5-8. (canceled)

9. (previously presented) A process according to claim 1, comprising oxygen and up to 50% by volume of carbon dioxide.

10-11 (canceled)

12. (previously presented) A process according to Claim 1, wherein the one or more laser diodes produce a wavelength of between about 700 nm and about 1,300 nm.

13. (previously presented) A process according to claim 1, wherein the one or more laser diodes produce a wavelength of between about 800 nm to about 1000 nm.

14. (canceled)